

## REMARKS

### Section 103 Rejections

All outstanding claims were rejected under Section 103 based on Kang in view of Hoang Sirat. Applicants have further limited their independent claims to clearly distinguish the now claimed invention from the cited references. In his 10/20/2008 Office Action Examiner was required to combine five references to support his assertion that the independent claims of Applicants (as of 10/20/2008) were not patentable under Section 103 as being obvious. Applicants believe that the earlier claims should have been allowed; however, Applicants have further amended the two independent claims to very clearly define the claimed invention and to clearly distinguish it from the referenced prior art or any other prior art that Applicants are aware of. Applicants request reconsideration of his invention in light of the more limited and specific claims.

Applicants' invention as stated in the summary and the abstract is a **"large communication network suitable for nationwide or worldwide utilization"**. Applicants' claims have now been limited to **"at least 250 area code nodes"** which was approximately the number to telephone area codes in the United States when the present application was filed. Applicants' invention, at least as presently claimed is a very large (at least 250 area code nodes) communication network. None of the references contemplate an all optical network of such a large scale as presently claimed. The combination of all of the cited references would not provide a workable all optical communication network. There is nothing in any of the references that suggest a network of the scale as presently claimed.

Applicants have carefully reviewed the cited references.

Kang describes a complicated scheme for choosing optical paths and backup paths to consume the least amount of wavelength bandwidth.

Hoang describes another extremely complicated scheme for operating an optical network based on a set of connectivity constraints such as quality of service.

Yamada describes a transmitter –modulator system for producing a sub-carrier frequencies at 25 GHz spacings.

Sirat describes a transmitter and modulator arrangement for generating sub-carrier frequencies.

Sanjeev describes a method of designing an optical network with both working and backup protection circuits for carrying traffic demands between node pairs.

Most of the technology described in the above references was discussed in the background section of the Application. There is nothing in these references that suggest the combination of the technologies referred to in these references to describe or suggest

the unique features of the present invention. The unique features of the present invention include a network arranged so that information is transmitted among at least 250 nodes without any change in wavelength between nodes on dedicated channels that are entirely optical. All electro-optical conversion and wavelength multiplexing and de-multiplexing occurs at the nodes or outside the node network. The invention includes a routing algorithm that assures efficient use of optical channels. This algorithm (as explained in the section of the application entitled "Solving the Allocation Problem") is fast enough to service a kilohertz re-provisioning rate. It converges rapidly in roughly 40 iterations.

The present invention provides a very large network (at least 250 area code nodes) permitting communication with no color conversions anywhere on the network and no electrical-optical or optical-electrical conversions between area codes. Neither the cited references nor, to the best of Applicant's knowledge, any other prior art describes or suggests such a network. This invention provides network that can handle enormous data rates for an enormous number of users, substantially errorless.

#### Commercial Success

As indicated in the background section of the application and all of the references cited by the Examiner, most of the technology (with the exception of Applicants' algorithm) has been available for several years, yet no one proposed a system as currently claimed by Applicants until Applicants did it. Applicants' assignee has proposed a nationwide communication network to the United States Government and has been awarded a \$399,330 contract for the first phase of a program to develop the nationwide system. Applicants are currently working under the contract. Had Applicants invention been obvious someone would have proposed it long before Applicants filed their patent application.

#### Conclusion

For all of the above reasons, Applicants request that the claims as modified be allowed and that the application be allowed to issue as a patent.

Respectfully submitted,



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